

CLAIMS

1. A method of manufacturing a display panel, the method comprising the steps of:

5 forming a material layer on a substrate; and
 heating and baking the material layer formed on the substrate which is placed on a supporting bed,

 wherein the supporting bed includes a first supporting bed and a second supporting bed placed on the first supporting bed,

10 wherein a difference in thermal expansion coefficient between the second supporting bed and the substrate is set smaller than a difference in thermal expansion coefficient between the first supporting bed and the substrate, and

 wherein the substrate is placed on the second supporting bed such
15 that the second supporting bed exists around the substrate during the heating and baking step for heating and baking.

2. The manufacturing method of claim 1, wherein the second supporting bed is a bar-like member placed on the first supporting bed.

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3. The manufacturing method of claim 1, wherein the second supporting bed is made of metal plate containing titanium.

4. The manufacturing method of claim 1, wherein at least one of the
25 first and the second supporting beds includes a movement suppressing means for suppressing movement of the second supporting bed on the first supporting bed.

5. The manufacturing method of claim 1, wherein the second supporting bed is split into a plurality of beds, and during the heating and baking step a sheet of the substrate straddling the plurality of the second supporting beds are heated and baked, wherein the second supporting beds are regulated such that thermally expanding directions of the respective second supporting beds agree with or approximate to a thermally expanding direction of the substrate.

6. The manufacturing method of claim 5, wherein thermal expansion center points of the respective second supporting beds are regulated to agree with one point on the first supporting bed.

7. The manufacturing method of claim 5, wherein the second supporting beds is made of metal plate containing titanium.

8. A supporting bed on which a substrate to be used in a display panel is placed for being heated and baked, the supporting bed comprising:

a first supporting bed; and

a second supporting bed placed on the first supporting bed,

wherein a difference in thermal expansion coefficient between the second supporting bed and the substrate is set smaller than a difference in thermal expansion coefficient between the first supporting bed and the substrate, and

wherein the second supporting bed has a structure such that when the substrate is placed on the second supporting bed, the second supporting bed exists around the substrate.

9. The supporting bed of claim 8, wherein the first supporting bed has a groove on its surface, on which the second supporting bed is placed, and the second supporting bed is formed of thin plate shaping along the surface of the first supporting bed.

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10. The supporting bed of claim 8, wherein the second supporting bed has bumps and dips.

11. The supporting bed of claim 8, wherein the second supporting bed is
10 a bar-like member placed on the first supporting bed.

12. The supporting bed of claim 8, wherein the second supporting bed is made of metal plate containing titanium.

13. The supporting bed of claim 8, wherein at least one of the first and
15 the second supporting beds has a movement suppressing means for suppressing movement of the second supporting bed on the first supporting bed.

14. The supporting bed of claim 8, wherein the second supporting bed is
20 split into a plurality of beds, and a sheet of the substrate straddles the plurality of the second supporting beds, wherein the supporting bed have a regulating section which regulates the second supporting beds such that thermally expanding directions of the respective second supporting beds agree with or approximate to a thermally expanding direction of the substrate.

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15. The supporting bed of claim 14, wherein the regulating section regulates such that thermal expansion center points of the respective second

supporting beds agree with one point on the first supporting bed.

16. The supporting bed of claim 15, wherein the regulating section includes a regulating pin provided to the first supporting bed and an opening
5 provided to the second supporting bed, which opening is to be fit to the regulating pin and has a long axis along an extended line toward the one point on the first supporting bed.

17. The supporting bed of claim 16, wherein an opening length "W" along the long axis of the opening and a length "L" between a thermal expansion center point of the second supporting bed and a center of the opening
10 is defined by formula (1) below:

$$W > (\text{thermal expansion coefficient of the second supporting bed}) \times T_f \times L \quad (1)$$

where, T_f = baking temperature, and L = the length from the thermal expansion center point of the second supporting bed to the center of the opening,
15 and W = opening length.

18. The supporting bed of claim 14, wherein a distance between a center point of the substrate straddling the plurality of the second supporting beds and
20 a thermal expansion center point of the second supporting bed is related with a thermal expansion coefficient of the substrate and a thermal expansion coefficient of the second supporting bed, and the relation is expressed in formula (2) below:

$$e < 1/(2 \times (\text{difference in thermal expansion coefficient between the substrate and the second supporting bed}) \times T_f) \quad (2)$$

where, e = distance between the center point of the substrate and the thermal expansion center point of the second supporting bed, and T_f = baking

temperature.

19. The supporting bed of claim 14, wherein the second supporting bed is made of metal plate containing titanium.